CLAIMS:

What is claimed is:

1. A communication system including a differential signal transmitter, the transmitter comprising:

a multiplicity of signal component output circuits, each signal component output circuit operable in a first mode sensitive to a first metric and a second mode sensitive to a second metric; and

a selection circuit, the selection circuit asserting control signals adaptively configuring each signal component output circuit to operate in either the first mode or the second mode.

2. The communication system according to claim 1, wherein the transmitter includes an output DAC, the output DAC further including a DAC decoder circuit, the decoder circuit receiving input digital signals and outputting a control word to the signal component output circuits, wherein the control word is the same for both the first and second modes.

3. The communication system according to claim 2, the selection circuit further comprising:

a first logic circuit connected to receive the control word, the first logic circuit asserting control signals which operate a corresponding signal component output circuit in the first mode; and

a second logic circuit connected to receive the control word, the second logic circuit asserting control signals which operate a corresponding signal component output circuit in the second mode.

4. The communication system according to claim 3, each signal component output circuit contributing a particular signal quantum to a differential output signal, a maximal value of the

sum of said quanta determined by a particular transmission standard, the maximal value defined by a corresponding number of signal component output circuits, wherein the control word adaptively disables a set of signal component output circuits so as to limit the maximal value of the sum of the signal quanta contributed by the remaining signal component output circuits to a value determined by a second transmission standard.

5. The communication system according to claim 4, wherein the first metric corresponds to radiative emissions and wherein the second metric corresponds to power consumption.

6. The communication system according to claim 5, wherein each signal component output circuit comprises a differential current mode driver cell, the first mode comprising a Class-A constant common-mode current, the second mode comprising a Class-B variable common-mode current.

7. The communication system according to claim 6, wherein the control word takes on a same value to both adaptively disable a set of signal component output circuits and to control operation of the same set of signal component output circuits with respect to the first or second modes.

8. A communication system including a differential signal transmitter, the transmitter comprising:

a multiplicity of signal component output circuits, each signal component output circuit contributing a particular signal quantum to a differential output signal, a maximal value of the sum of said quanta determined by a particular transmission standard, the maximal value defined by a corresponding number of signal component output circuits; and

a selection circuit, the selection circuit asserting control signals to each of said signal component output circuits, wherein the control signals adaptively disable a set of signal

component output circuits so as to limit the maximal value of the sum of the signal quanta contributed by the remaining signal component output circuits to a value determined by a second transmission standard.

9. The communication system according to claim 8, wherein the multiplicity of signal component output circuits are operable in a first mode sensitive to a first metric and a second mode sensitive to a second metric, the transmitter further comprising a selection circuit, the selection circuit asserting control signals adaptively configuring each signal component output circuit to operate in either the first mode or the second mode.

10. The communication system according to claim 9, wherein the transmitter includes an output DAC, the output DAC further including a DAC decoder circuit, the decoder circuit receiving input digital signals and outputting a control word to the signal component output circuits, wherein the control word is the same for both the first and second modes.

11. The communication system according to claim 10, the selection circuit further comprising:

a first logic circuit connected to receive the control word, the first logic circuit asserting control signals which operate a corresponding signal component output circuit in the first mode; and

a second logic circuit connected to receive the control word, the second logic circuit asserting control signals which operate a corresponding signal component output circuit in the second mode.

12. The communication system according to claim 11, wherein the first metric corresponds to radiative emissions and wherein the second metric corresponds to power consumption.

13. The communication system according to claim 12, wherein each signal component output circuit comprises a differential current mode driver cell, the first mode comprising a Class-A constant common-mode current, the second mode comprising a Class-B variable common-mode current.

14. The communication system according to claim 13, wherein the control word takes on a same value to both adaptively disable a set of signal component output circuits and to control operation of the same set of signal component output circuits with respect to the first or second modes.

15. The communication system according to claim 14, wherein the transmitter includes an output DAC, the output DAC further including a DAC decoder circuit, the decoder circuit receiving input digital signals and outputting a control word to the signal component output circuits.

16. The communication system according to claim 15, each differential current mode driver cell comprising:

first and second current sources, each conducting an equal quanta of current;

first and second differential pairs, each pair coupled to a respective current source;

a pair of differential outputs, a first output connected to a first transistor comprising each of the differential pairs, a second output connected to a second transistor comprising each of the differential pairs; and

four control signal inputs, each input controlling to a respective one of the transistors comprising the first and second differential pairs.

17. A communication system including a differential signal transmitter, the transmitter comprising:

a DAC decoder circuit, the DAC decoder circuit outputting DAC control words corresponding to digital input signals;;

a differential current mode driver cell array;

a selection circuit, the selection circuit asserting control signals in operative response to DAC control words, the selection circuit placing individual cells of the current driver cell array into a first operational mode sensitive to a first metric or into a second operational mode sensitive to a second metric in response to a select signal.

18. The communication system according to claim 17, wherein the first metric corresponds to radiative emissions and wherein the second metric corresponds to power consumption.

19. The communication system according to claim 18, each differential current mode driver cell comprising:

first and second current sources, each conducting an equal quanta of current;

first and second differential pairs, each pair coupled to a respective current source;

a pair of differential outputs, a first output connected to a first transistor comprising each of the differential pairs, a second output connected to a second transistor comprising each of the differential pairs; and

four control signal inputs, each input controlling to a respective one of the transistors comprising the first and second differential pairs.

20. The communication system according to claim 19, further comprising:

a first logic circuit connected to receive the DAC control word, the first logic circuit asserting control signals which operate a corresponding signal component output circuit in the first mode; and

a second logic circuit connected to receive the control word, the second logic circuit asserting control signals which operate a corresponding signal component output circuit in the second mode.

21. The communication system according to claim 20, each differential current mode driver cell comprising:

first and second current sources, each conducting an equal quanta of current;

first and second differential pairs, each pair coupled to a respective current source;

a pair of differential outputs, a first output connected to a first transistor comprising each of the differential pairs, a second output connected to a second transistor comprising each of the differential pairs; and

a set of control signal inputs, each input of the set controlling a respective one of the transistors comprising the first and second differential pairs.

22. The communication system according to claim 21, the first and second logic circuits each defining control signals in response to a DAC control word, said first and second differential pairs operatively responsive to said control signals to output a differential signal in either the first mode or the second mode.

23. The communication system according to claim 22, wherein the DAC control word is the same when the first and second differential pairs output a differential signal in either the first mode or the second mode.

24. The communication system according to claim 23, wherein the first mode is a Class-A mode and wherein the second mode is a Class-B mode.

25. A communication system including a differential signal transmitter, the transmitter comprising:

a multiplicity of signal component output circuits;

first means for adaptively configuring said signal component output circuits to operate in either a first emissions sensitive mode or a second power sensitive mode; and

second means for adaptively configuring said signal component output circuits to operate in accordance with at least two transmission standards, wherein said first and second means are implemented in a single integrated circuit.